

Commonwealth of Kentucky
Division for Air Quality
STATEMENT OF BASIS

DRAFT TITLE V PERMIT NO. V-05-030
KENTUCKY ELECTRIC STEEL ACQUISITIONS COMPANY, LLC
ASHLAND, KY
JANUARY 31, 2005
LINK SHUMAKER, REVIEWER
PLANT I.D. # 021-019-00020
APPLICATION LOG # 56490

GENERAL SOURCE DESCRIPTION:

Kentucky Electric Steel Acquisitions, LLC (KESA) manufactures steel angles and bars from scrap metal utilizing two electric arc furnaces (EAFs) producing medium or low carbon steel. When the furnaces are tapped the metal is transferred to a ladle metallurgical furnace (LMF) to purify the molten steel and add the proper alloys. The molten metal is then transported by overhead crane to the continuous caster to cast billets. The source is also equipped with a billet reheat furnace. Billets are heated prior to rolling into angles and bars in the rolling mill.

This source has applied for a Title V renewal. KESA was issued a PSD permit, C-80-76, which limited the steel production from the two EAFs to 33 tph and 281,160 tpy. A PSD review was conducted in 1980 for CO (permit C-80-76). The Direct Shell Evacuation (DSE) system is innate to the EAFs and has been determined as BACT for the system. Since that review the annual steel production limit of 403,200 tpy has been established, and as long as that limit is maintained a new PSD review with regard to CO is not required. When KESA requested increases in production rates to 48 tph and 403,200 tpy in their July 16, 1984 operating permit application, the Division issued Permit O-86-05, which allowed the increases without performing a PSD review. KESA's original Title V permit application requested additional increases to the production rates. When the Division reviewed the increases, it was determined that KESA should go through a PSD review. However, KESA wanted to avoid a PSD review and was granted an hourly increase in production rate to 68 tph while keeping the annual throughput at 403,200 tpy. It was Synthetic Minor (annual production limit on steel) to preclude PSD review for NOx. Also, the two EAFs are subject to 40 CFR 60 Subpart AA, as a New Source Performance Standard.

INDIVIDUAL UNIT, OPERATION OR ACTIVITY EMISSION AND OPERATING CAPS:

GROUP REQUIREMENTS:

20.1 - 20.3 (2,3,6) Meltshop

Description: Meltshop consisting of:

2-Lectromelt electric arc furnaces (EAFs) A and B
1-Ladle metallurgical furnace (LMF)
6-Oxy-Fuel burners for EAFs

Annual Hours of Operation: 8760 hours/year
Control Device: Baghouse

Construction Commenced: EAFs January 1981

LMF January 1995
Oxy-Fuel Burners 1998

APPLICABLE REGULATIONS:

401 KAR 63:021 Existing Sources Emitting Toxic Air Pollutants

40 CFR 60, Subpart AA Standards of Performance for Steel Plants: Electric Arc Furnaces
Constructed After October 21, 1974 and on or Before August 17, 1983

Operating Limits: Hourly steel production rate of the meltshop shall not exceed 68 tph; annual throughput shall not exceed 403,200 tpy.

GROUP REQUIREMENTS:

40.1 & 40.2 (4) Continuous Caster

Description: Continuous caster consisting of:

Natural gas combustion furnace
Continuous caster

Annual hours of operation: 8760 hours/year

Control Device: None

Construction Commenced: June 1968

APPLICABLE REGULATIONS:

401 KAR 61:020 Existing Process Operation

Operating Limits: Total steel cast shall not exceed 120 tph and 403,200 tpy.

GROUP REQUIREMENTS:

50.1 & 50.2 Materials Handling

Description: Materials handling consisting of:

Tundish dumping, ladle deskulling, and O₂ lancing
Tundish heater, (3x) ladle preheaters

Annual hours of operation: 8760 hours/year

Control Device: None

Construction Commenced: August 1998

APPLICABLE REGULATIONS:

401 KAR 63:010 Fugitive Emissions

Operating Limits: The permittee shall take reasonable precautions in the handling of materials to prevent particulate matter from becoming airborne.

GROUP REQUIREMENTS:

70.1 - 70.3 (7) Billet Reheat Furnace

Description: Billet reheat furnace consisting of:

Natural gas combustion
#2 fuel oil combustion (backup)
Propane combustion (backup)

Annual hours of operation: 8760 hours/year

Control Device: None

Construction Commenced: September 1981

APPLICABLE REGULATIONS:

401 KAR 59:010 New Process Operation

Operating Limits: None

GROUP REQUIREMENTS:

90.1 Plant Roadways, Parking Areas

Description: Plant roadways and parking areas are industrial gravel watered daily.

Annual hours of operation: 8760 hours/year

Control Device: Wet Suppression

Construction Commenced: August 1998

APPLICABLE REGULATIONS:

401 KAR 63:010 Fugitive Emissions

Operating Limits: The permittee shall take reasonable precautions in the handling of materials to prevent particulate matter from becoming airborne.

PLANT-WIDE EMISSION AND OPERATING CAPS:

TO PRECLUDE THE APPLICABILITY OF NSR THE TOTAL STEEL PRODUCED BY THE PLANT SHALL NOT EXCEED 403,200TPY.

CREDIBLE EVIDENCE:

The permit described in this document contains provisions that require specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has not incorporated these provisions in its air quality regulations.